



# Agile Cryptography Management Platform For Financial Institutions

Crypto Service Gateway with Secure Execution Environment  
Powered by Cryptomathic and PrimeKey

## FIPS 140-2 Level 3 certified crypto control center

Running your applications in a physically secure environment and the management of cryptographic Hardware Security Modules (HSMs) is the foundation of securing your digital assets. Cryptomathic's Crypto Service Gateway (CSG) enables organizations to achieve the full potential of cost savings through shared crypto devices and streamlined crypto operations. CSG is a central cryptographic infrastructure that simplifies application integration while ensuring the highest availability and utilization of HSMs. Acting as a crypto control center, CSG provides central policy enforcement and unified control of key management and crypto operations.

To provide an extended physical protection layer for CSG and the applications using its services, PrimeKey's SEE supplies a seamless trustworthy platform to the CSG. PrimeKey's SEE is a FIPS 140-2 Level 3 certified rack-mounted server, which ensures that applications running in VMs are operated in an environment that fulfill the same FIPS 140-2 level 3 requirements as the HSM devices managed by CSG. With PrimeKey's SEE, a packaged solution is offered to the market where all the operational obligation and tasks to ensure trusted handling of cryptographic keys and runtime protection for applications is taken care of by the hardware.

## Simplifying compliance audits

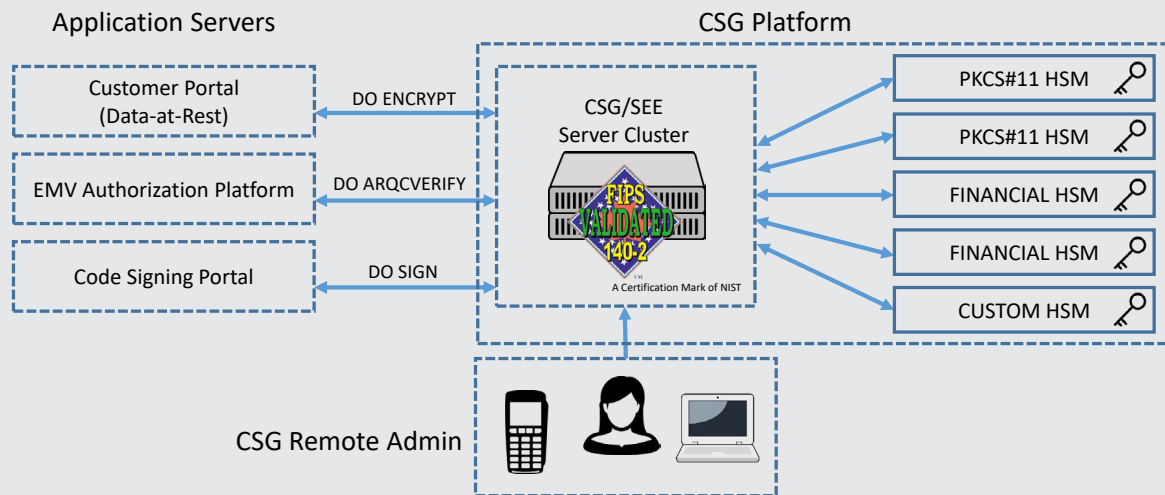
Driven by internal and external regulations and ever stricter compliance rules, your organization has accumulated a large install base of Hardware Security Modules (HSMs). Most likely it is a mix of different vendors and serving very different purposes. With no central management facility in sight, managing those important infrastructure devices becomes very costly and cumbersome. Leveraging Cryptomathic's CSG running as a centralized platform inside the physical secure FIPS environment of PrimeKey's SEE, you can provide an answer to the functional challenges and satisfy compliance requirements at the same time. CSG running on the hardened software and hardware stack the SEE provides, can offer policy-based cryptographic operations to all your applications – payment/financial, general purpose or even custom crypto operations. You can restrict access to the application during runtime and your platform for crypto operations can run in an insecure environment, while being protected by the FIPS 140-2 Level 3 boundary of SEE.

## Solution Benefits

- ✓ **Reduce costs** through shared infrastructure
- ✓ **Centralize policy and control** over all keys and crypto operations; keeping crypto decisions in the hands of the security team
- ✓ **Enable complete central management** and monitoring over entire HSM real-estate
- ✓ **Provide easy to read audit logs** for proof of compliance
- ✓ **Simple-to-use API** delivers increased development velocity and reduced time to market
- ✓ **FIPS 140-2 Level 3** certified hardware
- ✓ **Highly-available and scalable** infrastructure for using HSM crypto services

## How the solution works

The complete solution incorporates Cryptomathic CSG and PrimeKey SEE to provide a comprehensive crypto control platform to our clients. The high-level architecture is illustrated below.



## Cryptomathic CSG

Crypto Service Gateway (CSG) provides a highly-available and scalable infrastructure for using HSM crypto services. A CSG server cluster sits between HSMs and the applications, distributing load to the appropriate HSMs, enforcing crypto policy and centralized key management. CSG is managed using a dashboard allowing secure configuration, policy management and monitoring of the cluster. Administrators interact with CSG using two-factor smartcard authentication and calls to the API from applications are fully authenticated. Application-specific crypto parameters are all managed centrally through an easy-to-read policy language. The policy simplifies internal and external compliance audits (e.g. PCI-DSS) and empowers your security team with true crypto agility.

With CSG, a business can assert total control over its crypto estate, delivering increased efficiency, cost savings and confident compliance.



**CRYPTOMATHIC**

Learn more at [cryptomathic.com/CSG](https://cryptomathic.com/CSG)

## PrimeKey SEE

The PrimeKey Secure Execution Environment (SEE) is a full-size rack-mounted application server that comes with a patented FIPS protected execution environment for any operating system and application. It ensures that the server runtime environment can only be accessed by an authorized security administrator, making it impossible to access, to extract or to modify by an unauthorized party. By doing so it opens up a new world of possibilities where you can run each mission-critical application in any uncontrolled environment. With SEE, you can place your software wherever it benefits further advances of your business.

### Prevent manipulation

If your software controls sensitive information or functionality, you know the consequences that an undetected malicious modification can have. Your application might be hacked, your data compromised, or your machines stop working. With SEE you can sleep sound, no one can access or modify your software and data.



Learn more at [primekey.com](https://primekey.com)

## About Cryptomathic

Cryptomathic is a global provider of secure server solutions to businesses across a wide range of industry sectors, including banking, government, technology manufacturing, cloud and mobile.

With over 30 years' experience, we provide systems for Authentication & Signing, EMV and Crypto & Key Management through best-of-breed security solutions and services.

Contact us: [sales\\_enquiry@cryptomathic.com](mailto:sales_enquiry@cryptomathic.com)

## About PrimeKey

One of the world's leading companies for PKI solutions, PrimeKey Solutions AB has developed successful technologies such as EJBCA Enterprise, SignServer Enterprise and PrimeKey PKI Appliance.

PrimeKey is a pioneer in open source security software that provides businesses and organisations around the world with the ability to implement security solutions for IoT, finance, manufacturing, DevOps and e-ID.

Contact us: [sales@primekey.com](mailto:sales@primekey.com)